

In re Patent Application of
KRYUCHKOV ET AL.
Serial No. 10/814,543
Filed: MARCH 31, 2004

In the Claims:

This listing of claims replaces all prior versions or listings in the application.

1. (Currently amended) A computer program product being embodied on a computer readable hardware structure medium for using voice data traffic to reproduce a user experience for facilitating troubleshooting at least one of a plurality of VoIP stations, said computer program product comprising computer-executable instructions for:

retrieving packets of said voice data traffic associated with the at least one of the VoIP stations;

identifying time stamps associated with said retrieved packets;

determining an amount of jitter associated with each of said retrieved packets at least partially dependently upon said identified time stamps;

determining whether each of said retrieved packets will fit into a jitter buffer at least partially dependently upon said determined amounts of jitter;

dropping select ones of said retrieved packets dependently upon said determining whether each of said retrieved packets will fit into said jitter buffer; and,

filling a buffer with at least select ones of said retrieved data packets not dropped.

2. (Original) The product of claim 1, further comprising computer-executable instructions for reading data

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from said buffer to play back audio in a manner representative of a VoIP conversation associated with the at least one of the VoIP stations.

3. (Original) The product of claim 1, wherein said identifying time stamps associated with said retrieved packets comprises decoding at least one time stamp indicative of an actual time a corresponding one of said packets was received.

4. (Original) The product of claim 3, wherein said identifying time stamps associated with said retrieved packets comprises decoding at least one time stamp indicative of when a corresponding one of said packets was coded.

5. (Original) The product of claim 4, wherein said determining an amount of jitter comprises comparing corresponding ones of said time stamps indicative of actual times corresponding to when ones of said packets were received and time stamps indicative of when corresponding ones of said packets were coded.

6. (Original) The product of claim 1, wherein said identifying time stamps associated with said retrieved data packets comprises decoding time stamps indicative of actual times each of said packets was received.

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7. (Original) The product of claim 1, further comprising selectively filling said buffer with data indicative of comfort noise.

8. (Original) The product of claim 1, wherein said jitter buffer is user configurable.

9. (Original) The product of claim 8, wherein said jitter buffer is associated with the at least one of a plurality of VoIP stations.

10. (Original) The product of claim 1, further comprising computer-executable instructions for placing said select ones of said packets into a sound buffer to playback audio indicative of the communications problems.

11. (Original) The product of claim 2, further comprising computer-executable instructions for identifying IP addresses associated with said retrieved packets.

12. (Original) The product of claim 11, further comprising computer-executable instructions for playing said audio back using separate channels dependently upon said identified IP addresses.

13. (Original) The product of claim 12, wherein said each of said channels is associated with a conversation direction.

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14. (Original) The product of claim 1, wherein said buffer is a circular buffer.

15. (Original) The product of claim 1, further comprising computer-executable instructions for generating an audio file dependently upon said buffer.

16. (Original) The product of claim 16, wherein said audio file is a WAV sound file.

17. (Original) The product of claim 1, further comprising computer-executable instructions for pseudo-randomly selecting ones of said packets to drop.

18. (Original) A method for using voice traffic to reproduce a user experience for facilitating troubleshooting problems with at least one VoIP communication, said method comprising:

identifying at least one jitter buffer characteristic associated with the at least one VoIP communication;

accessing data packets of said VoIP traffic associated with the at least one VoIP communication;
identifying time stamps associated with said accessed data packets; and,

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dropping select ones of said accessed data packets dependently upon said identified at least one characteristic and identified time stamps.

19. (Original) The method of claim 18, further comprising playing back audio in a manner representative of the user experience using at least some of said accessed data packets not dropped.

20. (Original) The method of claim 19, further comprising storing at least some of said accessed packets not dropped.

21. (Original) The method of claim 19, wherein said identifying time stamps associated with the received data packets comprises decoding at least one time stamp indicative of an actual time a corresponding one of said packets was received.

22. (Original) The method of claim 21, wherein said identifying time stamps associated with the received data packets comprises decoding at least one time stamp indicative of when a corresponding one of said packets was coded.

23. (Original) The method of claim 22, wherein said dropping select ones of said packets comprises comparing corresponding ones of said time stamps indicative of actual

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times of when ones of said packets were received and time stamps indicative of when said packets were coded.

24. (Original) The method of claim 19, further comprising storing at least some of said accessed packets not dropped in a buffer and selectively filling said buffer with data indicative of comfort noise.

25. (Original) The method of claim 18, wherein said at least one characteristic is associated with a jitter buffer size.

26. (Original) The method of claim 18, wherein said jitter buffer size is user configurable.

27. (Original) The method of claim 18, wherein said characteristic is user configurable.